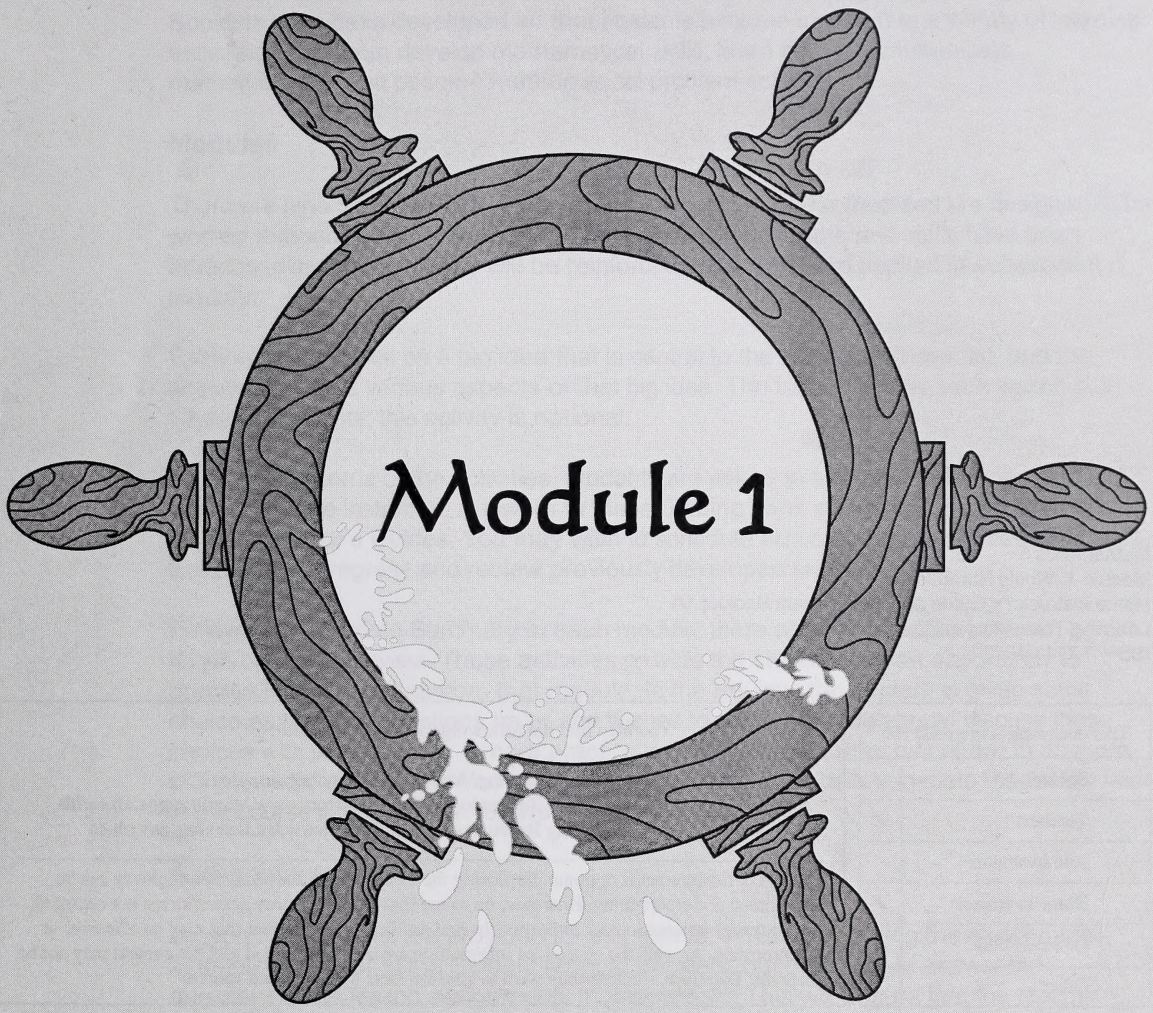
AL.2.2002-170
University of Alberta Library
0 1620 3370492 3

Mathematics 5



Home Instructor's Guide and Assignment Booklet 1A

Learning Technologies Branch

Alberta LEARNING

UNIVERSITY LIBRARY
UNIVERSITY OF ALBERTA

Mathematics 5
Module 1: Whole Numbers
Home Instructor's Guide and Assignment Booklet 1A
Learning Technologies Branch
ISBN 0-7741-1953-5

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

ALL RIGHTS RESERVED

Copyright © 2002, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 11160 Jasper Avenue, Edmonton, Alberta T5K 0L2. All rights reserved. Additional copies may be obtained from the Learning Resources Centre.

No part of this courseware may be reproduced in any form, including photocopying (unless otherwise indicated), without the written permission of Alberta Learning.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.

UNIVERSITY LIBRARY
UNIVERSITY OF ALBERTA

Course Overview for the Home Instructor

The nine modules in the Mathematics 5 course and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

Modules

There are nine Student Module Booklets for this course. The modules are designed to be worked through in order (from 1 to 9) because once concepts and skills have been introduced in a module, they will be reinforced, extended, and applied in subsequent modules.

Each lesson focuses on a big idea that is central to the topic being learned, and the activities address various aspects of that big idea. The last activity in each lesson is a Challenge Activity; this activity is optional.

At the end of some of the activities, students are asked to share what they are learning with their home instructor. Answers to these Sharing Time exercises are provided in the Home Instructor's Guides. You may wish to schedule additional sharing times to discuss the student's progress and review previously developed skills.

Following the Module Summary in each module, there are two special activities: Keystrokes and Review. These activities provide the student with an opportunity to practise important ideas from that module. In the Review, the student is given some choice as to which questions he or she wishes to complete; you should discuss these choices with your student. If more practice is needed, encourage him or her to do more of the questions provided. You may choose to have the student complete the review later in the course in preparation for the final test.

Assignments

Lesson Assignments are provided for this course. When completing the assignments, students may refer to the Student Module Booklets, but they should answer the questions in the lesson assignments independently. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, you may wish to review the appropriate lessons in the Student Module Booklet with the student and encourage him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

A broad range of assessment tools will be used to gather information to provide the teacher with a more complete picture of the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Lesson assignment questions, performance assessments, observations by the home instructor, and student self-assessment pages may all be used. As well, there may be a final test.

Textbooks

In addition to the distance learning materials, the following books are needed. These books are available from the Learning Resources Centre (LRC).

- the hardcover Mathematics 5 textbook, called *Quest 2000: Exploring Mathematics*, published by Addison-Wesley (LRC product number 339904)

- the softcover Practice and Homework Book for *Quest 2000: Exploring Mathematics* series, published by Addison-Wesley (LRC product number 390815)

Manipulatives

Your student will be using manipulatives (hands-on learning aids) to develop and reinforce many math concepts. Manipulatives are also useful when your student is sharing or discussing with you what he or she has learned.

Students will need to have access to the following mathematics manipulatives which are available from the Learning Resources Centre (LRC):

- pattern blocks (LRC product number 161901)
- base ten blocks (LRC product number 430637 or LRC product number 161927)

Note: If you purchase the kit of base ten blocks for individual use (product number 43063), you will need to make some large cubes that are 10 cm long by 10 cm wide by 10 cm high. You can make these cubes from paper or cardboard.

Calculators

A basic four-function calculator is required for many of the activities in Mathematics 5. The TI-108 calculator is recommended. It is available from LRC (product number 450164).

It is important to remember that a calculator is a tool to be used when doing difficult calculations and when investigating what numbers can do. Watch that your student doesn't rely on the calculator for calculations or estimations that he or she should be doing mentally. Both of these activities rely upon mastering the basic number facts.

Computers

If you have your own computer at home, your student may already know some computer software programs that reinforce the learning of math ideas and skills. There are also many websites on the Internet that provide math activities for students to do. Throughout this course, optional activities should be done only when the lesson activities are completed.

Note: Remind your student always to check with you before logging onto the Internet. Remember that any Internet website address given in the modules is subject to change.

Module 1: Whole Numbers

Overview

Module 1 focuses on whole number ideas and computation, with an emphasis on using large numbers. There are four lessons in this module. Most of the ideas are extensions of work done in previous grades. These include the following:

- estimating numbers
- representing, reading, writing, and rounding numbers
- place value ideas
- methods for computation, especially multiplication and division

Also, basic facts are reviewed in special exercises called Just the Facts, Please!

Assessment

At the end of each of the four lessons in Module 1, the student will be directed to complete an assignment in one of the two Assignment Booklets. The assignments will be graded by the teacher and have a total value of 90 marks.

Students are also expected to complete the Number in the News project. This project has a value of 10 marks. Encourage the student to look through a newspaper at least once a week for items on the Scavenger Hunt list. Read through the list with your student and suggest that he or she begin collecting samples of the ideas that he or she already understands. Other samples can be collected as ideas are introduced or extended in the module. Encourage your student to collect as many samples as he or she wishes. At the end of the module, the student will need to choose at least one sample for each question and submit the samples with the Assignment Booklet.

Pacing

The module has been designed so that students can work at their own pace. Each lesson, including the lesson assignment, will take the average student about one week to complete. The Challenge Activity in each lesson is optional.

Allowing extra time for review of basic facts and project work, Module 1 will take students 4 to 5 weeks to complete.

Lesson 1: Number Sense

Overview

Lesson 1 focuses on understanding large numbers by representing them with base ten blocks, words, and numerals. Students will extend and use their understanding of place value (to hundred thousands) to read and write numbers. Students will extend their estimation skills. In the Challenge Activity students will use Roman numerals.

Special Requirements

You may gather the following materials for your student to use in this lesson:

- base ten blocks
- place-value chart from Appendix
- counters (macaroni, dried beans or corn, bingo chips, buttons, bread tags, etc.)
- rice
- 1-L milk carton
- telephone book

Sharing Time

Students are asked to discuss what they are learning with their home instructor twice in Lesson 1—at the end of Activity 1 and at the end of Activity 4.

These Sharing Time exercises are open-ended so answers will vary. However, sample responses are given.

Activity 1 Sharing Time

Practice and Homework Book, page 19, questions 1 to 10

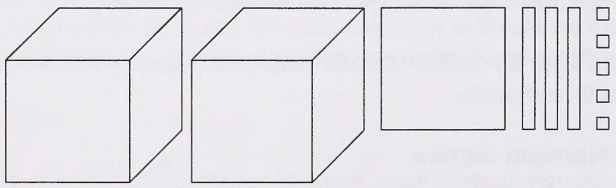
Following are examples of appropriate responses for questions 1 to 8:

- 8985: eight thousand nine hundred eighty-five
- 2405: two thousand four hundred five
- 1098: one thousand ninety-eight

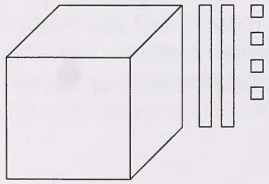
Note: Do not use the word *and* when reading or writing whole numbers.

Following are examples of appropriate responses for questions 9 and 10:

- 2135



- 1024



Activity 4 Sharing Time

One strategy would be to use twine and stakes to divide the lawn into rectangles of equal size. Pick one of the rectangles at random and count the number of weeds. Multiply the number of weeds in this rectangle by the total number of rectangles.

Lesson 2: Comparing and Ordering

Overview

Lesson 3 focuses on demonstrating understanding of large numbers by comparing, ordering, and rounding them.

Special Requirements

You may gather the following materials for your student to use in this lesson:

- place-value chart and counters used in Lesson 1
- paper clip to make a spinner for game
- heavy paper to make number cards for game

Sharing Time

Students are asked to discuss what they are learning with their home instructor once in Lesson 2—at the end of Activity 3. Discuss with your student which game you will play. You may choose to play both.

Just the Facts, Please!

Students are asked to review and practise the basic multiplication facts before beginning Lesson 3: Multiplication.

Just the Facts, Please! gives a helpful tip on reviewing multiplication facts and names an Internet site where students may play a game to practise their multiplication facts.

The following website has additional helpful information on helping students master basic facts:

http://www.teachervision.com/tv/resources/tactics/math_index2.html

It is important that students can recall number facts quickly. If your student is having difficulty, you may wish to review these facts regularly throughout the year.

Digitized by the Internet Archive
in 2016

https://archive.org/details/mathematics511albe

ASSIGNMENT BOOKLET 1A

Mathematics 5
Module 1: Lesson 1 Assignment and Lesson 2 Assignment

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

_____

Date Submitted:

_____

Apply Module Label Here

Name

Address

Postal Code

Please verify that preprinted label is for correct course and module.

FOR SCHOOL USE ONLY

Assigned Teacher:

_____

Date Assignment Received:

_____

Grading:

_____

Teacher's Comments

_____
Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.

2. All faxing costs are the responsibility of the sender.

E-MAILING

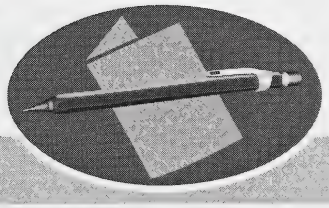
Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 5

Module 1

Whole Numbers

Assignment Booklet 1A



Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Lesson 1 Assignment	25	
Lesson 2 Assignment	15	
	40	

Teacher's Comments

Mathematics 5
Module 1: Whole Numbers
Assignment Booklet 1A
Lesson 1 Assignment and Lesson 2 Assignment
Learning Technologies Branch

This document is intended for	
Students	✓
Teachers	✓
Administrators	
Home Instructors	
General Public	
Other	

You may find the following Internet sites useful:

- Alberta Learning, **http://www.learning.gov.ab.ca**
- Learning Technologies Branch, **http://www.learning.gov.ab.ca/ltb**
- Learning Resources Centre, **http://www.lrc.learning.gov.ab.ca**

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

Copyright © 2002, the Crown in Right of Alberta, as represented by the Minister of Learning, Alberta Learning, 10155 – 102 Street, Edmonton, Alberta T5J 4L5. Print copies may be obtained from the Learning Resources Centre. Digital copies are available to registered Alberta educators at the Tools4Teachers website: **http://www.tools4teachers.ab.ca**

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Learning so that appropriate corrective action can be taken.

ASSIGNMENT BOOKLET 1A
MATHEMATICS 5—MODULE 1: WHOLE NUMBERS

Your mark on this module will be determined by how well you do your assignments in the Assignment Booklets.

Work slowly and carefully. If you are having difficulties, go back and review the appropriate lessons.

There are two lesson assignments in this Assignment Booklet. The total value of these assignments is 40 marks. The value of each assignment is stated in the left margin.

Be sure to proofread each assignment carefully.

(25)

Lesson 1 Assignment: Number Sense

1. Estimate the number of words on a newspaper page. Show your work.

(4)

Explain the strategy you used to come up with the estimate.

_____

_____

_____

_____

_____

_____

(4)

2. Rankin Inlet is 1500 km north of Winnipeg. Imagine driving from Winnipeg to Rankin Inlet on an imaginary highway. If you were just about to leave Winnipeg, and it was bumper-to-bumper traffic, estimate how many cars there might be on the road ahead of you. Show your work.

Explain the strategy you used to come up with the estimate.

(2)

3. Did you find it more difficult to estimate the answer for question 1 or question 2 ? Explain.

4.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

(2) **a.** Show how you would regroup the counters.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

(1) **b.** Write the expanded form for the number of counters.

_____

_____

(1) **c.** Write the standard form for the number of counters.

_____

(1) **d.** Write the number in words.

_____

_____

_____

_____

5. Complete each of the following charts by filling in the missing number forms.

(2)

a.

Expanded Form	300 000 + 60 000 + 5000 + 800 + 20 + 5
Standard Form	
Number in Words	

(2)

b.

Expanded Form	
Standard Form	794 016
Number in Words	

(2)

c.

Expanded Form	
Standard Form	
Number in Words	seven hundred five thousand three hundred twenty

6. Turn to page 49 of your textbook. Do questions 2 and 3 of On Your Own. Show your work.

On Your Own, question 2

(2)

(2) On Your Own, question 3

15

Lesson 2 Assignment: Comparing and Ordering

2

1. Explain how you would compare two whole numbers to decide which one is larger.

2. Turn to page 48 of your textbook. Do questions 1 to 5 of Visualizing Hundred Thousands.

4

Visualizing Hundred Thousands, question 1

City	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
Wide River						
Whoville						
Hickory Hollow						
Hilltop						
Peterpatch						
Lakeside City						
Grassburg						
Pine Valley						

② Visualizing Hundred Thousands, question 2

16 208: _____

_____

198 417: _____

_____

2147: _____

_____

433 212: _____

_____

25 380: _____

_____

476 352: _____

_____

215 149: _____

_____

6380: _____

_____

(2) Visualizing Hundred Thousands, question 3

(1) Visualizing Hundred Thousands, question 4

(4) Visualizing Hundred Thousands, question 5

City	Nearest Thousand	Nearest Ten Thousand (where possible)	Nearest Hundred Thousand (where possible)
Wide River			
Whoville			
Hickory Hollow			
Hilltop			
Peterpatch			
Lakeside City			
Grassburg			
Pine Valley			

© 2002